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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,618	08/19/2003	Hideaki Sakurai	241584US0CONT	3769

22850 7590 01/23/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
BLUM, DAVID S	

ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/642,618	SAKURAI ET AL.	
	Examiner	Art Unit	
	David S Blum	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/901,908.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8/19/03* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

This action is in response pre-amendment A, filed 08/19/03.

DETAILED ACTION

Double Patenting

1. Claims 27 and 28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 4 of copending Application No. 09/457743. Although the conflicting claims are not identical, they are not patentably distinct from each other because the device limitations of the instant application are recited in the device limitations of the 09/457743 claims. Limitations regarding process limitations are given no patentable weight.
Even though product-by-process claims are limited by and defined by the process, determination of Patentability is based upon the product itself. The patenability of a product does not depend on its method of production." MPEP 2113

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 40 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 40 recites "wherein the film body (of claim 26) is free of a substrate. Claim 26 does not recite a "film body", and also, it is unclear whether the film body was meant to refer to the fluoride layer alone, or the fluoride layer and the body (substrate). For purposes of examination, it is assumed that this refers to the fluoride layer and the body on which it rests.

4. Claim 40 recites the limitation "the film body" in claim 26. There is insufficient antecedent basis for this limitation in the claim.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 26-30, 33-35, 38, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Konishi (US005891531A).

Konishi teaches the device of claims 26-30, 33-35, 38, and 40 in that a polycrystalline or single crystal material is covered with a fluoride layer comprising the formula MO_xF_y. M is a rare earth metal, alkaline earth metal, alkali earth metal, or magnesium (column 7

lines 4-11). X is greater than 0, but less than 2 (column 8, very little impurities, such as oxygen). Also, the specification teaches X may be equal to 0, thus there may be no oxygen present (page 19, line 4).

Note that the specification contains no disclosure of either the critical nature of the claimed oxygen level or of any unexpected results arising there from. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in the claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1515, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Y is greater than 0, but also may be less than 4 (column 6, line 62), as in claim 26 and 38. The substrate may be MgO as in claim 27.

The limitation in claim 27 as to how the body is formed is a product by process limitation, and given little patentable weight, other than the body must be an oxide of one of the listed group. The limitation in claim 28 regarding how the fluoride layer is obtained is also considered a product by process limitation and given no patentable weight. The limitation in claim 29 regarding how the FPD is obtained is also considered a product by process limitation and given no patentable weight. As recited above, the display (field of invention) has a fluoride layer on a substrate as recited above.

Even though product-by-process claims are limited by and defined by the process, determination of Patentability is based upon the product itself. The patenability of a product does not depend on its method of production." MPEP 2113

The fluoride layer is 5 microns (column 12 line 49) as in claim 30 (0.1 nanometers to 100 microns)

The fluoride layer may cover a polycrystalline body, a sintered bogy (oxide glasses) or a single crystal as in claims 33, 34, and 35 (column 10 lines 15-18).

The fluoride layer of Konishi is on a substrate, and as best understood by the examiner, claim 40 limits the invention to the film body (fluoride layer and body) being free of a substrate. Thus Konishi teaches this.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 31-32, 36-37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konishi (US005891531A).

Konishi teaches the device of claims 31-32, 36-37 and 39 as recited above.

Regarding claim 31, Konishi teaches a thickness of 5 microns. The limitation of claim 31 recites 1 nanometer to 1 micron. However, the specification teaches the thickness may be between 0.1 nanometer to 100 microns and teaches no criticality between the

broader range and the narrower range. In fact, the specification teaches (page 14 lines 6-10),

"The reason for limiting the thickness of fluoride layer 112 to within the range of 0.1 nm to 100 microns is that if the thickness exceeds 100 microns, the reaction time between MgO and so forth and gaseous fluoridation agent is prolonged thereby resulting in poor workability."

Note that the specification contains no disclosure of either the critical nature of the claimed dimensions or of any unexpected results arising there from. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in the claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1515, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

As the narrower range of dimensions has no criticality, the dimensions are considered one of optimization.

These ranges are considered to involve routine optimization while it has been held to be within the level of ordinary skill in the art. As noted in In re Aller (105 USPQ233), the selection of reaction parameters such as temperature and concentration would have been obvious:

"Normally, it is to be expected that a change in temperature, or in concentration, or in both, would be an unpatentable modification. Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely degree from the results of the prior art. Such ranges are termed "critical ranges and the applicant has the burden of proving such criticality.... More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation."

In re Aller 105 USPQ233, 255 (CCPA 1955). See also In re Waite 77 USPQ 586 (CCPA 1948); In re Scherl 70 USPQ 204 (CCPA 1946); In re Irmscher 66 USPQ

314 (CCPA 1945); In re Norman 66 USPQ 308 (CCPA 1945); In re Swenson 56 USPQ 372 (CCPA 1942); In re Sola 25 USPQ 433 (CCPA 1935); In re Dreyfus 24 USPQ 52 (CCPA 1934).

One skilled in the requisite art at the time of the invention would have used any ranges or exact figures suitable to the method in the process of dimensions and concentrations using prior knowledge, experimentation, and observation with the apparatus used in order to optimize the process and produce the film structure desired to the parameters desired.

Regarding claim 32, as Konishi does not teach any method of masking a portion of the substrate, it is considered that Konishi teaches covering the entire surface with a fluoride layer.

Regarding claims 36 and 37, where x is greater or equal to 0.25 and less than 2, or greater or equal to 0.50 and less than 2, the instant specification teaches x is greater or equal to 0 and less than 2 (page 19, lines 5-6), with no criticality taught within a narrower range. The case law recited above for both criticality and optimization applies here.

Regarding claim 39, limiting the fluoride layer to MO0.5F, MO0.25F,MOF2, and MOF0.66, the specification teaches these as examples of X being greater or equal to 0 and less than 2, and Y being greater than 0 and less than or equal to 4. No criticality is taught here as these are listed as examples only (page 19 lines 4-6) along with other

examples. Konishi teaches fluorides that are within the taught numerical values of X and Y. Listing of empirical formulas regarding X and Y is considered optimization of non-critical values as recited above.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Blum whose telephone number is (703)-306-9168 (after approximately 02/05/04 (7571-272-1687) and e-mail address is David.blum@USPTO.gov .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr., can be reached at (703)-308-4940. Our facsimile number all patent correspondence to be entered into an application is (703) 872-9306. The facsimile number for customer service is (703)-872-9317. Our receptionist's number is (703)-308-0956.

David S. Blum

January 22, 2004